

FRANZIS-LAYMAN, K.

"Sea Fog as an Enemy of Fishermen and Seamen", P. 2. (GAZETA  
OBSERWATORA, Vol. 7, No. 5, May 1954, Warszawa, Poland)

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4,  
No. 1, Jan. 1955, Uncl.

FRANCIS LAYMAN, K.

"Lake Miedwie", P. 5, (TURYSTA, No. 8, August 1954, Warsaw, Poland)

SO: Monthly List of East European Accessions (EEAL), LC, Vol. 4, No. 3,  
March 1955, Uncl.

PRAWDZIC-LAYMAN, K.

"Influence of climate on man's economy." p. 10. (Gazeta Obserwatora, Vol. 6, no. 7, July 1953. Warszawa.)

SO: Monthly List of East European Accessions, Vol. 3, No. 2, Library of Congress, February 1954, Uncl.

PRANDZIC-LAYMAN, K.

"Currents of the sea." p. 2. (Gazeta Obserwatora. Vol. 5, no. 10, Oct. 1952. Warszawa.)

SO: Monthly List of East European Accessions. Vol. 3, No. 2, Library of Congress, February 1954, Uncl.

PRAWDZICOWA, Dorota, inz.

Electronic digital computers of the Institute of Mathematical  
Machines of the Polish Academy of Sciences. Przegl techn 85  
no.10: 2,3 8 M-'64.

PRAWOCHENSKI, R.

Nature of viruses and bacteria: discussion on Dolguszyń's article  
published in Przegląd hodowlany. Med.wet. 7 no.3:179-180 Mar 1951.  
(CLML 20:9)

118

CR

Interrelationship of thyroid and parathyroid glands.  
R. Prawoczek and B. Skrzyński. *Polish Agr. Forestal*  
Ann. 33, 216-24 (225-6 in English) (1934). J. Kučera

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

PRAYNING, O.

Production of high temperatures (up to  $55,000^{\circ}$ ) in laboratory conditions. (From: Oesterreichische Chemiker Zeitung 55, no.5/6 March '54.) Usp. fiz. nauk 55 no.4:595-608 '55 (MLRA 8:6)  
(Pyrometry) (Temperature) (Electric arc)



PRAYNING, O.

USSR/Physics - High temperature measurements

Card 1/2      Pub. 118 - 3/3

Authors      : Praying, O.

Title        : General remarks concerning the concept of high temperatures and their measurement

Periodical   : Usp. fiz. nauk 55/4, 595-608, Apr 1955

Abstract    : In connection with a possibility of obtaining very-high temperatures (up to 55,000°) under laboratory conditions, a new concept on the temperature (as an amount of kinetic energy of molecules) is presented. Methods of obtaining such temperatures and devices of their measurement are discussed. Five methods are analyzed: four are considered as methods by which high temperatures can be obtained only for a short time - they are: nuclear reactions, explosions, explosions of wires by an electric current, and super-powered sparks. The fifth method - a super powered ark (Gerdier's

Institution   : .....

Submitted    : .....

Card 2/2      Pub. 118 - 3/3

Periodical    : Usp. fiz. nauk 55/4, 595-608, Apr 1955

Abstract      : for example), is considered as a method of obtaining high temperatures for an extended period. As to methods of measuring such temperatures - the spectrographic method, together with mathematical calculations of the width of the spectral line produced by ionized oxygen atoms, is considered as the most reliable one. Twenty German references (1924-1935). Diagrams; illustration. (The article is a translation from the German into the Russian).

B. T. R.  
V. 3 No. 3  
Mar. 1954  
Heat Power

1535\* Heat Exchange in Cooled Combustion Chambers  
During Gas Combustion. (Russian). S. N. Shorn and K. N.  
Pravovoy. Izvestia Akademii Nauk SSSR, Otdelenie Tekh-  
nicheskikh Nauk, 1953, no. 8, Aug., p. 1122-1129.  
Experimental investigations revealed a strong influence of char-  
acter and location of radiation foci on heat exchange. Table,  
graphs, diagrams.

5/14/54 CM

BENUA, F.F.; DUKOR, Z.G.; KLYUSHENKOV, I.S.; KONSTANTINOV, V.P.;  
KATLER, A.I.; MAYKOV, N.K.; PRAYSMAN, A.D.; SERGEYEV, V.I.;  
TRUFANOV, V.G.; FEDOROV, V.F.; ~~PRIMIN, S.R.~~; CHERTKOV, Ye.A.;  
SHIBANOV, B.V.; VATASHKINA, S.A., red. izd-va; CHERNOV, M.I.,  
red.; BODROVA, V.A., tekhn. red.

[Handbook on ship repairs in two volumes] Spravochnik po  
remontu sudov v dvukh tomakh. Pod obshchei red. M.I. Chernova.  
Moskva, Izd-vo "Rechnoi transport." Vol.2. 1963. 600 p.  
(Ships--Maintenance and repair) (MIRA 16:9)

PRAYSMAN, N.Ya. (~~M~~irovograd)

Some remarks on the chapter "Approximate computation" in the  
arithmetic textbook. Mat. v shkole no.4:40-41 ~~Jl~~-Ag '61.  
(MIRA 14:8)  
(Approximate computation--Study and teaching)

KIPNIS, I. M. (Kirovograd); PRAYSMAN, N. Ya. (Kirovograd)

High standard of approximate computation in physics lessons.  
Fiz. v shkole 22 no.4:55-58 J1-Ag '62. (MIRA 15:10)

(Physics—Study and teaching)  
(Approximate computation)

CZECHOSLOVAKIA/Chemical Technology - Chemical Products and  
Their Application. Cellulose and Cellulose  
Products. Paper.

K-5

Abs Jour : Ref Zhur - Khimiya, No 2, 1958, 6587

Author : Prazak

Inst :           

Title : Production of Cellulose from Chemically Barked Wood.

Orig Pub : Papir a celuloza, 1957, 12, No 5, 100-102

Abstract : It was established that wood barked by use of As com-  
pounds contains a negligible amount of As, which has no  
influence on cellulose production.

Card 1/1

PORES, dr.; PRAZAK, dr.

Pyeloscopy with uerography in renal and urinary tumors. Cesk.rentg.  
9 no.4:157-159 Nov 55.

1. Rtg Oddel. a chir. oddel. OUNZ Tabor  
(URINARY TRACT, neoplasms,  
diag., serioscopic pyelography)



Pr. 272k Ales.

8369\* Czech: Air-Blast Resistance Circuit-Breakers. Pluko-  
vzdušné odporné odpojovače. Ales Praha Elektrická hra. by  
Obzor 45, Dec. 1960, p. 155-57, 2 figs.

009

PRAZAK, A.

Pneumatic resistance switches for high-voltage condensers. (Supplement) p. 33.  
(Energetika, Vol. 6, no. 6, June 1956. Praha, Czechoslovakia)

SO: Monthly List of East European Accessions. (EEAL) LC. Vol. 6, No. 6,  
June 1957. Uncl.

PRAZAK, Alojz, inz.

Planning and improving the parameters of constructions. Tech  
praca 14, no.8:634 Ag '62.

PRAZAK, Ales, inz. (Brno I, Lerchova 37)

Adaptation of pneumatic breakers to resistance breakers.  
Energetika Cz 12 no.10:558-559 0 '62.

1. Zavody Julia Fucika, Brno.

PRAZAK, A.

PRAZAK, A. Air-blast resistance circuit breakers. p. 595.

Vol. 45, no. 12, Dec. 1956

ELEKTROTECHNICKY OBZOR

TECHNOLOGY

Czechoslovakia

So: East European Accession, Vol. 6, No. 5, May 1957

MAZAK, A.

Compressed-air-blast resistance breakers. p. 286.  
(ELEKTROTECHNICKY OPZER, vol. 44, no. 5, May 1956, Praha)

30: Monthly List of East European Accession, (EIAL), LC, Vol. 4, No. 11,  
Nov. 1955, Uncl.

621.316.57.064.45  
✓ 5097. Air-blast breakers. A. PRAŽAK. *Elektrotech.*  
*Obzor*, 44, No. 5, 284-6 (1955) In Czech.  
EE Two types of Czechoslovakian air-blast resistance  
breakers for 10kV, 600A, 400 and 200MVA are  
described and test results obtained with them are  
presented. The smooth operation and rapid quench-  
ing of the main arc (4-period) are remarkable. The  
particular suitability of these breakers as motor  
switches and for switching capacitor banks was  
established. ELECTRICAL RESEARCH ASSOCIATION

PRAZAK B.

98. IMPROVEMENT OF LIGHTING IN CZECHOSLOVAKIAN MINES BY FLUORESCENT  
TUBES. Lohmann, F. and PRAZAK, B. (Uhli (Coal, Prague), Jan. 1956, vol. 6,  
21-23).



Prazak, J.

Prazak, J. Analysis of the production process of economic point of view. p. 14.

Vol. 35, no. 1, Jan. 1957

STAVIVO

TECHNOLOGY

Czechoslovakia

So. East European Accessions, Vol. 6, May 1957

No. 5

PRAZAK, Jan

Foreign bodies penetrating into urinary bladder from the surrounding areas. Rozhl. chir. 36 no.5:324-325 May 57.

1. Urologické oddelení státní fakultní nemocnice AMM v Plzni,  
přednosta prim. Dr Jan Prazak.

(RIAD082, foreign bodies  
penetration from surrounding areas (Cz))

PRAZAK, J. Dr.

AXMANN, K. Dr.: PRAZAK, J. Dr.

foreign body in the posterior urethra in male; case  
chir. 36 no.5:329-330 May 57.

1. Central rig odd. prednosta prim Dr Bores Chir. odd nos.  
prednosta prim Dr Prazak.  
(URETHRA, foreign bodies  
posterior urethra in male (Gz))

*Sandra*  
PRAŽÁK, J; FILSAKOVÁ, E., Dr; PANOŠ, J; ROTREKL, V; URBAN, J.

Czechoslovakia

First Internal Clinic FDL (I. vnitřní klinika FDL);  
Director: Prof Vlad. JEDLIČKA, Dr. Sc;  
Second Internal Clinic FDL (II. vnitřní klinika  
FDL); Director: Dr. Richard FOIT, Dr. Sc;  
X-Ray Department of the Faculty Hospital Pod  
Petřínem (Rentgenové odd. fak. nemocnice Pod  
Petřínem -- Pod Petřínem); Director E. FILSAKOVÁ, Dr.  
- (for all)

Prague, Vnitřní lékařství, No XI-1, 1963, pp 60-62

"The Problem of Military so-called Influenza  
Bronchopneumonia."

(5)

*author*

*4*

ROTREKL, V; PILSAKOVÁ, E; PRAŽÁK, J; URBAN, J; KUGLEROVÁ, H.

Czechoslovakia

First Internal Clinic FDL (I. vnitřní klinika FDL);  
Director: prof. Dr. Vlad, JEDLIČKA, Dr. Sc;  
X-Ray Department of the Faculty Hospital Pod  
Petrínem (Rentgenové oddělení fak. nemocnice  
Pod Petřínem -- Pod Petřínem); Director: E.  
PILSAKOVÁ, Dr. - (for all)

Prague, Vnitřní lékařství, No IX-1, 1963, pp 64-68

"Staphylococcal Infection Accompanying Pneumonia  
During the Influenza Epidemic of 1959."

(5)

FUCIK, M.; PRAZAK, J.

Severe hemorrhage from duodenal ulcer. Cas.lek.cesk. 98 no.49/50:  
1532-1537 4 D '59.

1. IV. interni klinika fakulty vseobecneho lekarstvi v Praze,  
prednosta prof.dr. Mojmir Fucik.  
(PEPTIC ULCER HEMORRHAGE)

PRAZAK, J.

1. Pravda (Leningrad), Vol VIII, No 1, January 1962, p. 10. (Pravda, Leningrad, 1962, p. 10.)
2. The Long Struggle in Chronic Pulmonary Disease and in Cor Pulmonale, H. KUSS, J. VILKIN, Chair of Internal Medicine, (Pravda, Leningrad, 1962, p. 10.)
3. The Struggle in Chronic Pulmonary Disease and in Cor Pulmonale, H. KUSS, J. VILKIN, Chair of Internal Medicine, (Pravda, Leningrad, 1962, p. 10.)
4. The Struggle in Chronic Pulmonary Disease and in Cor Pulmonale, H. KUSS, J. VILKIN, Chair of Internal Medicine, (Pravda, Leningrad, 1962, p. 10.)
5. The Struggle in Chronic Pulmonary Disease and in Cor Pulmonale, H. KUSS, J. VILKIN, Chair of Internal Medicine, (Pravda, Leningrad, 1962, p. 10.)

ROSLA, F.; JEDLICKOVA, Z.; ROTREKL, V.; PRAZAK, J.; JEDLICKA, V.; FILSAKOVA, E.  
Bacterial superinfection in an influenza epidemic. Role of staphylo-  
cocci in acute pulmonary complications in chronic pulmonary heart  
diseases during the 1962 influenza epidemic. Cas. lek. cesk. 103  
no.36:998-1003 4 S '64.

1. Ustav epidemiologie a mikrobiologie v Praze, (reditel prof. dr.  
K. Raska, DrSc.); Katedra mikrobiologie Ustavu pro doskolovani le-  
karu v Praze (vedouci prof. dr. K. Raska, DrSc.); I interni klinika  
nemocnice pod Petrinem fakulty detskeho lekarstvi Karlovy Univer-  
sity v Praze (prednosta prof. dr. V. Jedlicka, DrSc) a Centralni  
rentgenologicke oddeleni nemocnice pod Petrinem v Praze (vedouci  
MUDr. E. Filsakova).



L 56702-65 EWT(1)/EPA(sp)-2/EPF(c)/EPA(w)-2/EEC(t) Pub-10/Pr-4/Peb AT  
 ACCESSION NR: 225018989 C2/0038/64/010/012/0446/0446  
 AUTHOR: Prazak, Jaroslav (Prazhak, Ya.); Seidl, Zdenek (Seydl, Z.) 40  
 TITLE: High-frequency ion source 39  
 SOURCE: Jaderna energie, v. 10, no. 1/2, 1964, 446 B  
 TOPIC TAGS: ionization, proton, deuteron

Abstract [summaries only, authors' Czech summary modified]: The design of a  
 H-F ion source of protons and deuterons with a two-lense ion-optical system is  
 described, and the results of the stand tests of this source are given. The  
 optimum parameters of the ion source and its ion-optical system are the follow-  
 ing: ionic current, 150 to 200  $\mu$ A; gas consumption, 9 normal cubiccentimeters  
 per hour; power input of high-frequency generator, 60 to 120 W; extraction  
 voltage, 2 to 2.5 kV; voltage of unipotential lense, 17 to 21 kV; voltage of  
 gap lense, 10 to 60 kV. The ion source is intended for a 5 MV electrostatic  
 generator of the Van de Graaff type.

Card 1/2

I. 56702-65

ACCESSION NR: AE5018989

ASSOCIATION: Ustav jaderneho vyzkumu CSAV, Rez (Nuclear Research Institute CSAV)

SUBMITTED: 00

ENCL: 00

SUB CODE: NR,

NR REF SOV: 000

OTHER: 000

JPRS

Card

PR  
2/2

PRA ZAF, J (DR)

4 sec  
-- 1/4 --

1. The first part of the report is a description of the situation in the area of the ...  
2. The second part of the report is a description of the situation in the area of the ...  
3. The third part of the report is a description of the situation in the area of the ...  
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5. The fifth part of the report is a description of the situation in the area of the ...  
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9. The ninth part of the report is a description of the situation in the area of the ...  
10. The tenth part of the report is a description of the situation in the area of the ...

PRAZAK, J.; FILSAKOVA, E.; URBAN, J.; ROTREKL, V.; KOTRLIK, J.; KUGLEROVA, N.

Broncho-pulmonary manifestations of influenza. Cas.lek.cesk. 99  
no.47:1480-1484 18 N '60.

I. I. interni klinika FDL KU, prednosta prof. dr. VI. Jedlicka,  
doktor lekárskeho ved. Rtg oddeleni OUNZ Praha 1, nemocnice Pod  
Petrinem, primarka dr. E. Filsakova.  
(INFLUENZA compl)

PRAŽÁK, J.

EXCERPTA MEDICA Dec.14 Vol.9/12 Radiology Dec 55

1936. PRAŽÁK J. Urol. Odd. KÚNZ, Plzeň. \*Léčení nádorů močového měchýře se zvláštním zřetelem k léčení kontaktním ozařováním rtg. Treatment of tumours of the urinary bladder with special reference to treatment by contact X-irradiation ROZHL. TUBERK. 1955, 34/1-2 (130-138)

All the usual conservative and surgical methods of treatment of tumours of the urinary bladder, including irradiation therapy, are described. Special consideration is given to a combined method. This consists in excision of the wall of the bladder with the tumour, with simultaneous X-irradiation by a hollow anode (dosage 3,160 r.) with the bladder opened. This is followed by epicycstostomy. After healing of the surgical wound, the roentgen irradiation is continued in the usual way. In 13 patients with tumours of the urinary bladder, this method proved to be effective and the author advocates it in tumours without infiltrative growth. In infiltrating malignant tumours, cystectomy remains the method of choice.

Zeman - Brno (IX, 5, 14, 16)

FUCIK, M.; KOJECKY, Z.; JAPLONSKA, M.; PRAZAK, J.

Modern diagnosis in gastroenterology. Cas.lek.cesk 101 no.2:8-12  
5 Ja '62.

1. IV interni klinika KU v Praze, prednosta prof. MUDr. M. Fucik.

(GASTROENTEROLOGY diag)

PRAZAK, J.

Manufacturing of pulp from chemically barked wood. p.100.  
(Papir A Celulosa, Vol. 12, No. 5, May 1957, Praha, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAL) IC. Vol. 6, No. 9, Sept. 1957. Uncl.

IRANAK, J.

BULLETIN

Periodicals: OCEANOGRAPHIC LITERATURE Vol. 4, No. 3, 1961

IRANAK, J.; IRANAK, J. National conference on the pituitary gland  
p. 509.

Monthly List of East European Accessions(MIAI) LC, Vol. 8, No. 5,  
May 1959, Unclass.



JINDRAK, F.; JINDRAKOVA, E.; PRAZAK, J.; ZEMAN, G.

Epidemic jaundice in Kladno in 1952. Cas. lek. cesk. 92 no. 41-42:  
1121-1128 16 Oct 1953. (CLML 25:4)

1. Of the Internal Department (Head--F. Jindrak, M.D.) of OUNZ, Kladno.

PRAZAK, Jan, Prim. MUDr

Posttraumatic conditions of the urethra and their surgical treatment.  
Rozhl.chir. 34 no.1-2:118-130 Feb '55.

1. Z urologickeho oddeleni KUNZ v Plzni  
    (URETHRA, diseases  
      posttraum., surg.)  
    (WOUNDS AND INJURIES  
      urethra, posttraum. cond., surg.)

**PRAZAK, Jan, Prim. MUDr**

Therapy of tumors of the urinary bladder with special reference to therapy with contact x-irradiation. Rozhl.chir. 34 no.1-2:130-138 Feb '55.

1. Z urologického oddeleni KUNZ v Plzni  
(BLADDER, neoplasms  
ther., contact x-ray)  
(RADIOTHERAPY, in various diseases  
bladder cancer, contact x-ray)

PRAZAK, J.

Slovak folk architecture; its present state, importance, and research.

p. 512 (SLOVENSKY NORODOPIŠ) Vol. 5, no. 5, 1957,  
Bratislava, Czechoslovakia

SO: Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 3,  
March 1958

PRAZAK, J.

Prazak, J. 50 seconds over Strahov; a television report which was not broadcast. p.364.

No.16, Aug. 1955 KRIDLA VLASTI Praha, Czechoslovakia

SO: Monthly List of East European Accessions, (FEAL), IC, Vol. 5, No. 2  
February, 1956

PRAZAK, J.

At the air border.

p. 412  
No. 18, Sept. 1955  
KRIDL VLASTI  
Praha, Czechoslovakia

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, no. 2  
February 1956, Uncl.

PRAZAK, J.

Contribution to the surgical treatment of sarcoma in newborn infants. Rozhl. chir. 43 no.9:624-627 S '64.

1. Chirurgické oddelení Krajské nemocnice s poliklinikou v G. Budejovicích (vedoucí doc. dr. A. Kostecký, CSc.).

PRAZAK, Jaroslav; SEIDL, Václav

High frequency ion source. Jadrna energie 10 no.12:196 1 162.

1. Institute of Nuclear Research of the Czechoslovak Academy of Sciences, Rez.



TRNKA, Antonin, inz.; PICHLIK, Vaclav, inz.; PRAZAK, Josef, inz.; ROULE, M.  
inz.; MIKSOVSKY, M., inz.; MEDVED, B., inz.

Technical economic mapping and the development of technology.  
Geod kart obzor 10 no.9/10:222-226 0 '64

ROTREKL, Viktor; URBAN, Jan; PRAZAK, Josef

Clinical course of complications observed during the influenza epidemic in the spring of 1959. Cas.lek.cesk. 99 no.47:1469-1474 18 N '60.

1. I. klinika chorob vnitřních fakulty detského lékařství KU v Praze, přednosta prof. dr. V. I. Jedlička.  
(INFLUENZA compl)

URBAN, J.; ROTREKL, V.; PRAZAK, J.

Influenzal cardiopathies. Cas.lek.cesk. 99 no.47:1474-1479 18 N'60.

1. I. interni klinika FDL KU v Praze, prednosta prof. dr. Vladimir Jedlicka.

(INFLUENZA compl)

(HEART DISEASE etiol)

FUCIK, M.; BAZIKA, V.; NOVAK, S.; PRAZAK, J.; SKOREPA, J.

On the problem of bleeding from gastrointestinal diverticula. Cas.  
lek.cesk 100 no.22:692-695 2 Je '61.

1. IV. vnitřní klinika KU v Praze, přednosta prof. MUDr. Mojmir Fucik.

(HEMORRHAGE GASTROINTESTINAL etiol)  
(DIVERTICULOSIS compl)

*Przysak, M.*

6

731. Polarographic determination of chlorine in vinyl chloride co-polymers. M. Przysak, J. Penc and Z. Bartusick (Chem. Pap., 1963, 8, 297-298). Dried-out polymer (0.013 g) is wrapped in cigarette paper and burned in a closed flask between two platinum electrodes by means of a thin glowing platinum wire. The flask contains 60 ml of  $H_2O$  and  $O$  is introduced for 6 min. during the ignition process. The flask is shaken to absorb the combustion gases. Ten ml of the soln. are pipetted into a small beaker, 10 ml 0.2 N  $H_2SO_4$  and 0.01 g of water-free  $Na_2S_2O_8$  are added, the liquid is stirred and after 5 min. transferred to a polarographic cup that has been previously rinsed with the soln. and the bottom covered with Hg. The potential used for the measurement is + 0.130 to + 0.135 mV on the drop. From the determined normality of the soln. the amount of Cl in the sample is calculated. The method is suitable for polymers containing up to 73 per cent. of Cl. The accuracy of the method is  $\pm 0.5$  per cent.

CHEM. ABSTR.

*MF*

PRAZAK, M.

621 371 44  
2961. A generator of sawtooth current waveform of very low frequency. M. PRAZAK. *Slaboprvodny Obzor*, 15, No. 11, 528-30 (1934) in Czech.

The device consists of a pentode with an RC network in its grid and an electromagnetic relay in its anode; the grid condenser is discharged by the relay contacts upon the anode current reaching its maximum value. The generator produces sawtooth waveforms of 0.5 sec to 5 min duration, the current rising linearly from zero to  $\sim 70$  mA. The linearity of the waveform is improved by supplying the pentode from an inductor-input rectifier circuit. The device can also be used as a constant-current source.

R. S. SINGROWICZ

62  
224

PRAZAK, M.; PRAZAK, V.

Corrosion studies. II. Effect of electrical properties of the electrode on potential measurements during interrupted current polarization. p. 294.

CHEMICKE LISTY Vol. 49, No. 3, Mar. 1955

SO::Monthly East European Accession (EEAL) LC, Vol. 4, No. 9, Sept. 1955 Uncl.

PRAZAK, MILAN

✓ Corrosion studies. III. Anodic passivation of iron and cathodic passivation of magnetite. Milan PRAZAK and Vilém PRAZAK (Výzkumný ústav ochrany materiálů, Prague). Chem. Listy 49, 1189-43 (1955); cf. C.A. 49, 8405a. The course of anodic passivation of iron and of cathodic passivation of magnetite in  $NH_4SO_4$  is analogous; in both cases a passive layer (with its own characteristic potential) is formed which is stable under given passivation conditions. In the anodic process an oxide layer is formed on the iron; in the cathodic process a layer of iron is formed on magnetite. The potential of destroying the passive layer corresponds to the equil.  $FeO/Fe_2O_3$ ; the potential of destroying the metallic passive layer corresponds to the equil.  $Fe/FeO$ . The corrosion current in passive states is controlled by the reaction rates in the solid state and is influenced by the nature of the passive layer. E. Erdős

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of



Frazak, M.

Passivity and corrosion resistivity of stainless steel. p. 65.  
HUTNICKE LISTY. (Ministerstvo hutniho prumyslu a rudnych dolu)  
Brno1 Vol. 11, no. 2, Feb. 1956.

Source: EFAL IC Vol. 5, No. 10 Oct. 1956

PRAŽEK, M.

✓ On the Passivity and Corrosion Resistance of Stainless Steels.  
M. Pražek and V. Pražek. (Hutnická Listy, 1936, 11, (2),  
VI-977). (In Czech). Chemical passivation of metals in  
oxidizing solutions was compared with anodic passivation,  
with particular reference to 18/8 steels. On the basis of the  
researches it is now possible to determine with considerable  
precision the conditions under which the metal is corrosion  
resistant, particularly in the passive state. Such deter-  
minations can also be made on phases present in alloys in  
small amounts if a metallographic microscope is used in  
addition to the oscillographic equipment for recording the  
polarization curves.—P. F.

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of

...the potential being displaced to more positive values. In the limiting case the passivation potential of the grain boundaries equals that of an Fe-Ni alloy. The results were compared with standard corrosion tests.

of

PRAZAK, MILAN

5 8  
 ✓ Anodic corrosion protection of steels. Milan Prazak  
 (Vyzkumny ustav cehmny materialu, Prague). ~~Reference~~  
 Listy 11, 944-8 (1958).—Conditions which are necessary for  
 maintaining metallic material in the passive state by anodic  
 protection are given. For preventing corrosion of C-N  
 steels in strong acids the method of oxide protection is sug-  
 gested. The metal is maintained in the passive state, it is  
 electrically connected with material which maintains its  
 potential in the corroding environment in the region of pas-  
 sivity of the metal, and gives up this potential to the metal  
 being protected. The conditions for such material used  
 were elaborated. Exptl. results obtained with different  
 steels treated in boiling  $H_2SO_4$  with an oxide protector on the  
 basis of  $Fe_2O_3$ , semiconducting  $Fe_3O_4$ , and  $MnO_2$  showed  
 that this method could be suitable even for controlling plant  
 scale. 10 references. Petr Schneider

POB MX

FRANAF, H.

The potentiostat and certain problems of potential polarization of fixed electrodes.  
p. 237.

Vol. 17, no. 4, Apr. 1956

RUDY

Praha, Czechoslovakia

Source: East European Accession List. Library of Congress  
Vol. 5, No. 8, August 1956

~~Corrosion studies. II. The effect of the electrical~~  
~~properties of the electrode on potential measurements~~  
~~during interrupted current polarization. M. A. P. J. J.~~  
~~21. 1. 1967. 1. 1. 1967. 1. 1. 1967. 1. 1. 1967. 1. 1. 1967.~~  
~~Anodic polarization of iron and cathodic preservation of~~  
~~magnetic. 1. 1. 1967. 1. 1. 1967. 1. 1. 1967. 1. 1. 1967. 1. 1. 1967.~~

PRAZAK, M.

✓ 4566\* (German.) Corrosion Study. Korrosionsstudium. V.  
Mechanism of Chemical Passivation and Corrosion of Metals  
Mechanismus der chemischen Passivierung und Korrosion  
der Metalle. M. Prazak and V. Prazak. Collection of Czechoslo-  
vak Chemical Communications, 21, no. 3, 1956, 349-  
359.  
Comparison of chemical and electrochemical passivation and  
corrosion of iron in HNO<sub>3</sub> of various concentrations.

2

of

PRAZAK, M.

LISKOVA, M.; PRAZAK, M.; PITRA, B.

Replacement of skull defects with dead bone. Rozhl. chir.  
35 no.11:637-643 Oct 56.

1. I. chirurgické oddelení UVN Praha, chirurg. odd. ON C.  
Budejovice.

(CRANIUM, surg.

plastic, dead bone implants (Cs))

(BONE AND BONES, transpl.

cranial dead bone implants (Cs))



Prazak, M.

0005

CHEMICAL LISTY  
Vol. 50(20), No. 1  
January, 1956

Corrosion Studies V.: The Mechanism of the Chemical Passivation and the

Corrosion of Metals.

The chemical and electrochemical passivation and the corrosion of iron in nitric acid solutions of different concentration were compared. A diagram expressing the corrosion behaviour of iron in this medium was constructed. Results obtained showed that there is no essential difference between the mechanism of the chemical and electrochemical corrosion reactions. The course of the chemical corrosion reaction can be described quantitatively by means of partial currents, i.e. in electrochemical terms.

By M. Prazak & V. Prazak.....

PM

of

LPH

MILAN  
DRAZAK, MILAN

18 18 26  
1(4E2C)  
Examination of ferrite  $\delta$  transformation in stainless steels with higher titanium content. Vladimir Šabat and Milan Pražák (Výzkumný ústav materiálů G. V. Akimova, Prague). *Hutnické listy* 3, 230-42(1967).—By etching at a controlled potential, the transformation of  $\delta$ -ferrite in 18/0/Ti steel was examined by means of optical and electron microscopy. The ferrite transformation develops the following reaction:  $\delta \rightarrow \text{carbides} + \gamma + \sigma$ . The presence of  $\sigma$  phase in the structure of steel reduces the capability of steel for secondary passivation and changes the nature of potential-dependent polarization curves in the transpassive region. 26 references. Petr Schneider

aj

RG

Prazak, M.; Novotny, J.

Prazak, M.; Novotny, J. Modernization of universal grinding machines of the U type. p. 81.

Vol. 5, no. 2, Feb. 1957  
STROJIRENSKA VYROBA  
TECHNOLOGY  
Czechoslovakia

So: East European Accessions, Vol. 6, May 1957  
No. 5

FRÁZAK, K.; ŠIBAL, V.; POLÍNEK, M.

"Differentiation of phases in metallographic etching." 1. Electrolytic etching with a controlled potential. In German. p. 9.

COLLECTION OF CZECHOSLOVAK CHEMICAL COMMUNICATIONS, Praha, Czechoslovakia,  
Vol. 24, No. 1, Jan. 1959.

Monthly List of East European Accessions (MEAI), LC, VOL. 8, No. 6, Sept. 59

Unclassified

L 59608-65 EPF(c)/EWA(d)/EWP(t)/EWP(z)/EWP(b) JD/WB

ACCESSION NR: AP5020424

CZ/0034/64/000/003/0562/0566

AUTHOR: Franz, Ferdinand (Engineer, Doctor, Candidate of sciences); Stefec, Rudolf (Engineer); Prazak, Milan (Engineer, Candidate of sciences)

TITLE: Use of the polarograph for the recording of a potentiodynamic curves

SOURCE: Hutnicke listy, no. 8, 1964, 562-566

TOPIC TAGS: metal corrosion, polarography, potentiometer, nickel, stainless steel, ferritic steel, pearlitic steel, austenitic steel

ABSTRACT: The potentiostat is used to study corrosion of metals, and is rather expensive. Classical potentiostats are simpler and cheaper, and the authors describe their use in the study of metal corrosion. The authors used a polarograph for the corrosion studies, and discuss the necessary modifications of the instrument when used for this purpose; the polarograph thus became a classical potentiostat. Results obtained with instrument in studies on stainless ferritic pearlitic, austenitic steels, and nickel, are described. Orig. art. has: 15 figures, 1 table, 5 formulas.

Card 1/2<sup>th</sup>

L 59608-65

ACCESSION NR: AP5020424

2

ASSOCIATION: Katedra chemické technologie kovů VSCHT, Prague (Department of  
Chemical Technology of Metals VSCHT); Státní výzkumný ústav ochrany materiálů  
G. V. Akimova, Prague (State Research Institut for the Protection of Materials)

SUBMITTED: 00

ENCL: 00

SUP CODE: MM, EC

NR REF SOV: 000

OTHER: 017

JPRS

Card

8/2

PRAZAK, M.

Contribution to the kinetic analysis of the anodic passivation  
of metals. Pt. 2. Coll Cz chem 29 no.8:1773-1781 Ag '64.

1. Staatliches Institute für Materialschutz, Prague.

L 8388-65 EWT(p)/EWP(q)/EWP(b) Pad ASD(m)-3 JD/HW/JG/NB

ACCESSION NR: AP4041521

Z/0065/64/000/003/0289/0302

AUTHOR: Cihal, Vladimir (Chigal, Vladimir); Mechura, Jaroslav <sup>B</sup>  
(Mekhura, Yaroslav); Prazak, Milan (Prashak, Milan)

TITLE: The effect of chromium, molybdenum, tungsten, and iron on the electrochemical and corrosive properties of Ni-alloys in the active state <sup>AB</sup> <sup>✓</sup>

SOURCE: Kovove materialy, no. 3, 1964, 289-302

TOPIC TAGS: nickel alloy, binary nickel alloy, nickel molybdenum alloy, nickel copper alloy, nickel chromium alloy, nickel tungsten alloy, nickel iron alloy, corrosion resistance, alloy corrosion resistance, nickel alloy corrosion resistance <sup>✓</sup>

ABSTRACT: The effect of chromium <sup>✓</sup> (2.55—21.14%), molybdenum <sup>✓</sup> (2.78—30.60%), tungsten (0.84—11.12%), and iron (6.38—42.70%) on the electrochemical and corrosion behavior of nickel in the active state has been investigated. The alloys were melted in a high-frequency induction furnace and were annealed at 1150C for 30 min and water quenched. Corrosion tests were conducted in boiling diluted

Card 1/5



L 8388-65

ACCESSION NR: AP4041521

hydrochloric acid. The width of the immunity zone and the potential of overvoltage  $E_r$  were determined in  $2n\ HCl + 0.01\% KCNS$ . Molybdenum and copper were found the most beneficial alloying elements. They increase the corrosion resistance of nickel in the active state, raise the overvoltage, and widen the immunity zone (see Figs. 1 & 2 of the Enclosure). Tungsten extends the zone of immunity and increases the overpotential, but somewhat less than does molybdenum. However, the results of corrosion tests of nickel-tungsten alloys cannot be considered reliable. Chromium and iron lower the corrosion resistance of nickel in the active state. The positive effect of molybdenum confirms the importance of this element for the development of alloys of the NiMo30 type. Orig. art. has: 8 figures and 1 table.

ASSOCIATION: Statni vyzkumny ustav ochrany materialu G. V.  
Akimova, Prague (State Research Institute for Material  
Protection) (Prague)

Card 2/5

L 8388-65  
ACCESSION NR: AP4041521

SUBMITTED: 25Jun63

ATD PRESS: 5101

ENCL: 02

SUB CODE: MM

NO REF SOV: 001

OTHER: 017

Card 3/5

L 8388-65

ACCESSION NR: AP4041521

ENCLOSURE: 01

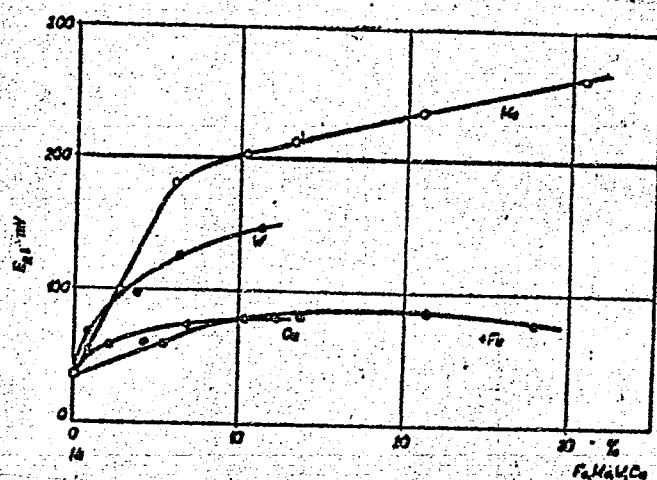


Fig. 1. Effect of molybdenum, copper, tungsten, and iron on the potential beginning of anode dissolution

Card 4/5

L 8388-65

ACCESSION NR: AP4041521

ENCLOSURE: 02

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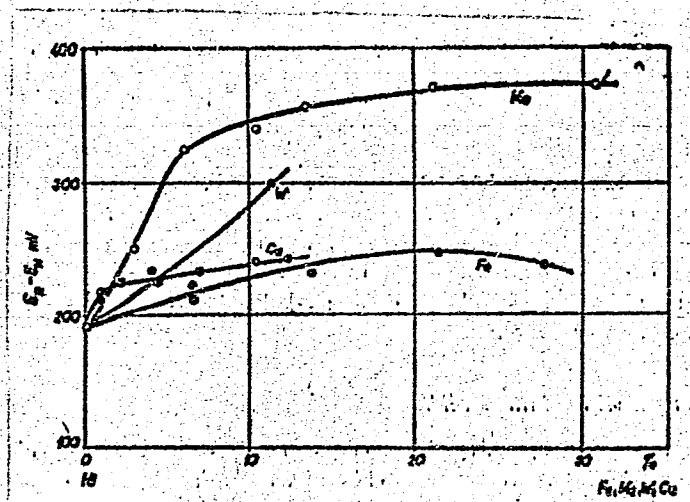


Fig. 2. Effect of molybdenum, copper, tungsten, and iron on the width of immunity zone

Card 5/5

PRAZAK, M.

Contribution to the ~~ex~~amination of kinetics of anodic passivation of metals. Coll Cz Chem 29 no.1:1-9 Ja'64

1. Staatliches Forschungsinstitut fur Materialschutz, Prag.

PRAZAK, M.; PLACAK, B.; BARTAK, L.

Posttraumatic sequelae after gunshot wounds of the lungs.  
Rozh. chir. 42 no.11:810-115 N'63.

Experiences with the treatment of persistent hemothorax in  
gunshot wounds of the lung. 816-822

Early surgical treatment of gunshot wounds of the lungs.  
822-830

1. Oddeleni pro chirurgii hrudni a brisni UVN v Praze; ve-  
douchi: doc.dr. B.Placak.

\*

PRAZAK, M.; PLACAK, B.

Analysis of operations with the use of extracorporeal circulation. Rozh. chir. 42 no.11:789-794 N'63.

1. Oddeleni pro chirurgii hrudni a brisni UVN v Praze; vedouci: doc.dr.B.Placak.

\*

PLACAK, B.; PRAZAK, M.; BURDA, J.; KALAB, J.; BARTAK, L.

Analysis of our 1st 100 patients surgically treated for  
mitral stenosis. Rozh. chir. 42 no.11:764-774 N'63.

1. Oddeleni pro chirurgii hrudni a brisni UVN v Praze; ve-  
douci: doc.dr. B.Placak.

\*



PRAZAK, M.; PLACAK, B.; KALAB, J.

Our experiences with the Crafoord-Semning apparatus for extra-corporeal circulation. Rozh. chir. 42 no.11:780-784 N°63.

1. Oddeleni pro chirurgii hrudni a brisni UVN v Praze; vedouci: doc.dr.B.Placak.

\*

PRAZAK, M.

Successful surgical treatment of a gunshot wound of the  
abdominal aorta. R. chn. 13 no. 12-221 1. 111

1. Vydeleni pro chirurgii hrudni a břišní DVN v Praze  
(včetně doc. dr. B. Písrak, CSc.)

VYKLICKY, Miloslav; LOBL, Karel; KABRHEL, Adolf; TUMA, Hanus; CIHAL, Vladimir; PRAZAK, Milan

Effect of molybdenum and copper on the properties of chrome stainless steel. Hut listy 16 no.8:553-560 Ag. '61.

1. Statni vyzkumny ustav materialu a technologie, Praha (for Vyklicky, Lobl, Kabrhel and Tuma). 2. Statni vyzkumny ustav ochrany materialu G.V.Akimova, Praha (for Cihal and Prazak).

Z/032/63/013/004/005/011  
E073/E183

AUTHOR: Pražák, M.

TITLE: Influence of chromium, nickel, molybdenum, copper and tungsten on the corrosion and mechanical properties of austenitic stainless steels

PERIODICAL: Strojirenství, v.13, no.4, 1963, 315

TEXT: The quantitative relations between the concentration of the alloying elements Cr, Ni, Mo, Cu and W and their influence on the corrosion resistance of steels in acids are investigated. Additions of nickel are beneficial in the 16-20% range. Up to 5% Mo added on its own does not improve the resistance of chromium-nickel steels to corrosion in hot  $H_2SO_4$  solutions of higher concentrations. However, above 5% it brings about an appreciable improvement. In combination with copper (1 to 3% Cu), Mo is effective from concentrations of 1% onwards. Tungsten in quantities of 1 to 2% appreciably reduces corrosion in not too highly concentrated acids. Report Z-30/61, SVUOM, Prague.  
[Abstracter's note: Complete translation.]

Card 1/1

POBORIL, F., inz., dr.; ZEZULOVA, M., inz.; PRAZAK, M., inz.

Corrosion properties of austenitic nickel and molybdenum alloyed chrome-manganese of stainless steel. Hut listy 17 no.10:705-712 0 '62.

1. Vyzkumny ustav hutnictvi zeleza, Praha (for Poboril and Zezulova). 2. Statni vyzkumny ustav ochrany materialu G.V. Akimova, Praha (for Prazak).

S/276/63/000/001/009/028  
A006/A101

AUTHORS: Beránek, Eduard, Pražák, Milan, Černý, Miroslav

TITLE: Protection of metals against the effects of wear and corrosion  
caused by suspensions in aggressive media

PERIODICAL: Referativnyy zhurnal, Tekhnologiya mashinostroyeniya, no. 1, 1963,  
56, abstract 1B295P (Czechosl. Patent, cl. 48 d,5, no. 100943, of  
September 15, 1961)

TEXT: A patent is delivered for a method protecting against failure of  
internal surfaces of metal pipes, through which aggressive liquids with suspended  
solid particles flow. It is recommended to use special admixtures, corrosion in-  
hibitors and cathodic protection.

B. Yakovlev

[Abstracter's note: Complete translation]

Card 1/1

KOLOMB'YE, L. (Frantsiya); PLUGARZH, Ya. [Pluhar, J.] (Chekhoslovakiya);  
VYKLITSKIY, M. (Chekhoslovakiya); PRAZHAK, M. [Prazak, M.]  
(Chekhoslovakiya); CHIGAL, V.; KHEYSKANEN, K. (Finlyandiya);  
SKIN, K.

Reports made at the Symposium on Stainless Steel. Metalloved.  
i term. obr. met. no.5:51-54 My '62. (MIRA 15:5)  
(Steel, Stainless--Congresses)

40646

Z/034/62/000/010/001/002  
E073/E335

18 1130

AUTHORS: Pobořil, F., Engineer Doctor, Zezulová, M. and  
Pražák, M., Engineers

TITLE: Corrosion properties of austenitic stainless  
nickel- and molybdenum-alloyed chromium-manganese  
steels

PERIODICAL: Hutnické listy; no. 10, 1962, 705 - 712

TEXT: The results of earlier investigations with austenitic  
CrMn and CrMnNi steels with high nitrogen contents have provided  
information on the interrelation between the composition of the  
steel, solubility of nitrogen in the liquid steel and the rate of  
occurrence of gas bubbles and shrinkage cavities in cast ingots.  
These investigations enabled evolving a technology of smelting  
and casting austenitic Cr-Mn-N steels so as to obtain  
ingots free of bubbles and inadmissible shrinkage cavities. The  
object of the experiments described in this paper was to study  
the influence of additions of Ni and Mo on the corrosion proper-  
ties of steel of the basic type 10Cr16Mn15N, containing  
approximately up to 0.1% C, 15% Mn, 16% Cr and maximum 0.40% N.  
Card 1/3



Corrosion properties ....

Z/034/62/000/010/001/002  
E073/E335

The laboratory experiments were carried out with two series of heats, one produced in a 100-kg high-frequency furnace, cast into ingots and formed by forging and rolling into 20-mm diameter rods; the second series was produced in an 8-kg high-frequency furnace cast into 8-kg ingots and forged into 20-mm diameter rod. In both series the rods were austenitized at 1 050 to 1 070 °C for 1 hour, followed by cooling in air. These experiments revealed that the corrosion resistance in the passive state can be improved by alloying with 0.5% Mo and still more by alloying with 2% Ni. Corrosion tests in 10% HCl at 20 °C revealed that this conclusion also applied to the active state. The laboratory experiments were followed by experiments on industrial heats of the following compositions (%):

Design	CSN	designation	C	Mn	Si	Cr	Ni	Mo	N	P	S
17470	N 7470	0.05	14.0	max	16.0	-	0.30	0.32	max.	max.	
		0.12	17.0	1.00	19.0	-	0.70	0.42	0.060	0.035	
17471	N 7471	0.05	14.0	0.60	16.0	1.20	-	0.32	max.	max.	
		0.12	17.0	1.50	19.0	2.00	-	0.42	0.060	0.035	

Card 2/3

Corrosion properties ....

Z/034/62/000/010/001/002  
E073/E335

The corrosion-resistance in 65% boiling nitric acid of both these steels was found to be comparable with the resistance-to-corrosion of 17% Cr stainless steel ČSN 17041 but the passivation ability of these new steels, expressed quantitatively by the critical passivation current density, was higher and this was very favourable for the resistance-to-corrosion in slightly oxidising media. Both these developed steels are practically equivalent as regards resistance-to-corrosion. However, from the point of view of production technology, particularly as regards re-using scrap, steel 17471 was found to be more favourable. The elongation, contraction and impact-strength of these steels were virtually the same as those of austenitic CrNi steels but their yield point was about 100% higher. Full data are given on the mechanical and corrosion properties of the tested new steels. The production of steel 17471 is at present being introduced at the following Czech plants: VŽKG; TŽ VŘSR - sheet mills and VTŽ. There are 4 figures and 8 tables.

ASSOCIATIONS: VÚHŽ, Prague; SVUOM G.V. Akimova, Prague.

SUBMITTED: February 21, 1962

Card 3/3

40290

S/081/62/000/014/012/039  
B166/B144

18.8300

AUTHORS: Pražák M., Spalíný, J.

TITLE: Corrosion study. XXIV. The influence of temperature on the passivation of corrosion-resistant steels

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 14, 1962, 341 - 342, abstract 14I177 (Collect. Czechosl. Chem. Commun., v. 26, no. 11, 1961, 2828 - 2837)

TEXT: Temperature dependence of the corrosion rate was studied in the regions of the critical current of passivation, passivity, transpassivation and secondary passivity, the range being 20-210°C and one of the corrosion-resistant steels having the composition (in%): C 0.1, Cr 18, Ni 9, the other: C 0.1, Cr 18, Ni 10, Mo 2. The tests were made in a 1 N solution of H<sub>2</sub>SO<sub>4</sub> with 0.01% KCNS added for activation. Tests at solution temperatures above boiling point were carried out in autoclaves. The potentiostatic method was used. It is shown that with increasing temperature the region of immunity becomes narrower whilst the critical passivation Card 1/2

Corrosion study. ...

S/081/62/000/014/012/039  
B166/B144

tion current and the corrosion current in the passive and transpassive region increase. The passivation potential does not vary. The corrosion rate as a function of temperature can be expressed by the Arrhenius' equation. Experimental values for the dependence of the critical passivation current, maximum corrosion current in the transpassive state, minimum corrosion current in the region of secondary passivity in the 20 - 90°C range, and corrosion current in the passive state close to 200°C are all expressed in coordinates  $I - 1000/T$  by straight lines. Corrosion in the passive state increase by a factor of  $10^7$  with increase in temperature from 20° to 210°C. The stability of the passive state and the tendency to passivation diminish with increase in temperature. The efficiency of passivating inhibitors, for example  $Fe^{3+}$  salts, is greatly reduced. For communication XXIII see RZhKhim, 1961, 81153. [Abstracter's note: Complete translation.]

Card 2/2

37476  
S/129/62/000/005/010/011  
E073/E335

18.1130

AUTHORS: Vyklický, M., Pražák, M., Číhal, V. (Czechoslovakia)

TITLE: Influence of alloying elements on the properties of austenitic stainless steels

PERIODICAL: Metallovedeniye i termicheskaya obrabotka metallov, no. 5, 1962, 52 - 53

TEXT: By analyzing the potentiodynamic polarization curves the influence of molybdenum, copper, tungsten and silicon was investigated (individually and in various combinations) on the corrosion-resistance of Cr-Ni austenitic stainless steels, containing 13 - 22% Cr and 21 - 30% Ni. The polarization curves were recorded at room temperature for a 1 mole solution of hydrochloric acid with 0.01% KCNS added. The following were applied as a criterion of the resistance-to-corrosion: the width of the zone of immunity and the magnitude of the electrochemical potential. It was found that an increase in the nickel content within the investigated limits did not have an appreciable influence on the active state of type X20H5 (Kh20N5) steels,

Card 1/3

Influence of .....

S/129/62/006/005/010/011  
E073/E335

alloyed with silicon, molybdenum and copper. The positive electrochemical potential increased with increasing contents of molybdenum and the range of immunity broadened. Copper had the same influence but to a somewhat lesser extent. Tungsten had no influence on the immunity range and increased only slightly the potential of the active range. After laboratory investigations, experimental heats were produced of the steel X24N20 (Kh24N20), which were alloyed with molybdenum and copper. Specimens of these heats were tested for corrosion-resistance in hydrochloric acid for durations of 480 hours. The steel alloyed with 3% Mo and 3.5% Cu showed the highest resistance-to-corrosion; it was higher than that of the steel type X21N38M5T (Kh21N38M5T). Sheets 1 and 3 mm thick were produced from the new steel and tested in 14 different media, including hydrochloric and sulphuric acids, at various concentrations and temperatures. The resistance-to-corrosion of

Card 2/3

Influence of ....

S/129/62/000/005/010/011  
E075/E335

this steel in these media was considerably higher than that of the steel X18-9M2 (Kh18N9M2) and slightly better than that of the steel X21-38-2 (Kh21N38M2T). The new steel is very stable against intercrystallite corrosion.

[Abstracter's note: this is a complete translation.]

4

Card 3/5

SIDAK, Zdenek, inz.; KUCERA, Miloslav, MUDr.; PRAZAK, Milan, MUDr.;  
ZEMAN, Bronislav, MUDr.

A miniature cardiostimulator. Sdel tech 9 no.11:414-416 H '61.



30131

Z/034/62/000/005/004/007  
E073/E535

18.11.60

AUTHORS: Pražák, M., Engineer, Čihal, Vl., Engineer, Candidate of Science and Měchura, J., Engineer

TITLE: Influence of chromium, nickel, molybdenum, copper and tungsten on the electrochemical, corrosion and mechanical properties of austenitic stainless steels

PERIODICAL: Hutnické listy, no.5, 1962, 369

TEXT: The report contains data for formulating [developing] highly corrosion-resistant austenitic steels for the chemical industry with economic contents of alloying elements which can be used as an equivalent, from the corrosion point of view, of the steel ČSN N7 252. On the basis of potentiostatic and corrosion tests, the quantitative relations were determined between the contents of the alloying elements and their influence on the corrosion properties of the steels in  $H_2SO_4$  and HCl media. It was found that the economic nickel content is in the range of 16 to 20%. In more concentrated acids in the hot state molybdenum has a favourable effect only from contents of 5% onwards; however, in combination with copper (1 to 3%) molybdenum has a favourable

Card. 1/2

Influence of chromium, nickel ... Z/034/62/000/005/004/007  
E073/E535

effect even from 1% onwards. The very favourable effect of copper from the point of view of corrosion was confirmed. From the point of view of the mechanical properties of the steel at normal temperature, copper has an unfavourable effect from contents of 2.2% onwards and on hot forming from 2.5% onwards. On the example of experimental heats of the steels types 1Cr18Ni16Mo3Cu2 and 1Cr16Ni16Mo8 it was verified that in combination with data on the structural, technological and price effects of alloying elements, the established relations can be applied as a basis for developing economical types of corrosion-resistant steels with predetermined corrosion properties.

Research Report SVUOM No.30/61

25 pages, 20 figures, 7 tables.

[Abstractor's note: Complete translation]

Card 2/2

30415

Z/032/62/012/004/002/007  
E073/E535

18.1130

AUTHORS: Cihal, V., Pražak, M. and Měchura, J.

TITLE: Influence of some alloying elements on the properties  
of austenitic stainless steels

PERIODICAL: Strojirenství, v.12, no.4, 1962, 283-287

TEXT: For estimating the corrosion properties of various materials, potential polarization curves were used, recorded by means of a potentiostat in accordance with a method published earlier by the authors. So far, the results obtained by means of this method cannot be transformed directly into weight losses in ordinary corrosion tests and therefore the method is suitable only as a basis for comparison. The influence of increasing quantities of copper, molybdenum, tungsten and nickel in steels containing 18% Cr and 9 to 12% Ni on the characteristic values of the polarization curves in the range of immunity and activity on the resistance to corrosion, the mechanical properties and ductility were investigated on material produced in a 10 kg capacity high-frequency laboratory furnace. 2 kg ingots were pre-heated to 500-600°C for one hour and then forged by means of a steam hammer X  
Card 1/2

Influence of some alloying ...

Z/032/62/012/004/002/007  
E073/E535

into 18 to 20 mm diameter rods. In addition to measuring the electrochemical values, corrosion tests were made on the same steels using a 10% solution of HCl at 20°C, a 10% boiling  $H_2SO_4$  and concentrated nitric acid at boiling temperature. The authors proved a definite correlation between the measured electrochemical values and the corrosion properties of the tested steel. Molybdenum proved to be a favourable element except as regards resistance to oxidizing agents. Copper and nickel have a positive influence on the values characterizing the resistance to corrosion in the active state. Tungsten increases slightly the tendency of steel to become passive and in some cases also increases the resistance in the active state. Of interest is the considerable influence of tungsten on suppressing the corrosion current in the passive state. Within the investigated concentrations, molybdenum and tungsten showed a considerable influence on the mechanical properties, whilst copper had a considerable influence on the hot forming properties. There are 12 figures and 1 table.

ASSOCIATION: SVÚOM, Prague

Card 2/2